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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/653,075	09/03/2003	Masakazu Doi	01-465	1955
23400 7590 07/27/2007 POSZ LAW GROUP, PLC 12040 SOUTH LAKES DRIVE SUITE 101 RESTON, VA 20191			EXAMINER HUSSAIN, TAUQIR	
			ART UNIT 2152	PAPER NUMBER
			MAIL DATE 07/27/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/653,075

Applicant(s)

DOI ET AL.

Examiner

Tauqir Hussain

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 09/03/2003, 01/09/2007.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. Claims 1-6, are pending in this application.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim recites "signal data sent by other than the signal processing unit" lines 14-15. It is not clear what other device and what other signal applicant is pointing to? It is further not clear what is the relation between above signal and internal data and further how is it associated with command data, which is sent to output processing unit and monitoring unit.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 1-3 and 5-6, are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai Shunei (Pub. No.: 10-326109), hereinafter, "Sakai" in view of Darby et al. (Patent Number: 5,835,873), hereinafter "Darby".

6. As to claim 1, a control system comprising:

a signal processing unit(Sakai, [0006, line 4], center equipment can be interpret as signal processing unit);

a computation processing unit (Sakai, [0006, line 3], data terminal equipment can be interpret as computation processing unit); and

a monitor processing unit (Sakai, [0006, line 4], monitoring system),

wherein the signal processing unit, the computation processing unit, and the monitor processing unit mutually communicate data (Sakai, [0006, line 2-7], where all equipments are integrated through communication lines), wherein the signal processing unit sends, to the computation processing unit and the monitor processing unit (Sakai, [0006, line 9-17], where malfunction data from data source 1 and 2 e.g. computational units are sent to monitoring system from center equipment), signal data that indicates at least one of a state of a switch and a detection result of a sensor (Sakai, [0006, line 9-17], where detection of abnormality in the pump inherently caused by an automated sensor which is triggered upon any abnormality since data is collected remotely therefore, there has to be an automated system in place to generate an abnormal signal by relay or sensor)

wherein the computation processing unit executes a computation using at least one of the signal data sent by the signal processing unit (Sakai, [0012, lines 11-13], where arithmetic unit receives the signal which is sent by signal processing unit and transmission equipment performs the conversion which can be interpret as executing a computation), signal data sent by other than the signal processing unit (Sakai, [0011,

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lines 8-11], where monitoring system sends the data to person in charge), and internal data (Sakai, [0006, lines 9-17], where first and second data could be internal data), and then sends operation command data to an output processing unit (Sakai, [0012, lines 11-13], where data is send to printer) and operation condition data to the monitor processing unit (Sakai, [0012, lines 11-13], where data is sent to monitoring unit), and wherein the monitor processing unit receives the signal data sent by the signal processing unit and stores the received signal data (Sakai, [0006, lines 4-17], where transmission of malfunction or detection of abnormalities are sent to center equipment where it is stored in a database), and wherein the monitor processing unit determines whether abnormality is present, by comparing the stored signal data with the operation condition data received from the computation processing unit (Sakai, [0006, lines 4-17], where 1<sup>st</sup> and 2<sup>nd</sup> data sets are stored on center equipment in a database and based on these data abnormalities are determined). Sakai is silent on, wherein the operation command data controls the output processing unit for activating at least one of an actuator and a load and wherein the operation condition data indicates that condition where an operation command trigger that activates an operation command target is affected. Darby however, discloses, wherein the operation command data controls the output processing unit for activating at least one of an actuator and a load (Darby, Col.3, lines 30-33, where electronic control unit sends a signal to activate a safety device), wherein the operation condition data indicates that condition where an operation command trigger that activates an operation command target is effected (Darby, Col.3 lines 46-53, where electronic control unit is capable of sending and receiving the signal),

Therefore it would have been obvious to one ordinary skilled in the art at the time the invention was made to combine the teachings of Sakai with the teachings of Darby in order to provide a safety system having a plurality of safety device controllers and a method of controlling the safety devices, which can be applied in factory, vehicle or production environment.

7. As to claim 2, Sakai and Darby disclose the invention substantially as in parent claim 1, including, wherein the operation command trigger is one of a plurality of operation command triggers (Darby, Col.3, lines 36-38, where plurality of diagnostic tests are performed through diagnostic port interface)

wherein the computation processing unit sends, to the monitor processing unit along with the operation condition data, operation trigger data indicating the operation command trigger (Darby, Col.3, lines 30-33, where safety device activation commands are sent over the communication bus which are operation command trigger), and

wherein the monitor processing unit determines whether abnormality is present by additionally considering the operation command trigger received from the computation processing unit (Darby, Col.3, lines 46-53, where fault warning messages are received which can be interpret as abnormality and means for receiving integrity of data can be interpret as additional operation command trigger received from the computation processing unit).

8. As to claim 3, Sakai and Darby disclose the invention substantially as in parent claim 1, including, wherein the signal processing unit sends, along with the signal data,

timing information that specifies sending timing at which the signal data is sent (Sakai, [0014, lines 11-18], where all time related history of data is sent to the signal processing unit),

wherein the monitor processing unit receives the timing information sent by the signal processing unit along with the signal data and stores the received timing information with correlating the timing information with the signal data (Sakai, [0008] and [0009], where monitoring system collects the 1<sup>st</sup> and 2<sup>nd</sup> data), and

wherein the monitor processing unit determines whether abnormality is present by additionally considering the stored timing information (Sakai, [0011], where information of abrupt increase is asked and since time related data has been already collected in earlier stage therefore this abnormality can obviously be time related).

9. As to claim 5, Sakai and Darby disclose the invention substantially as in parent claim 1, including, wherein the computation processing unit generates a data that includes the operation command data for the output processing unit (Sakai, [0012, lines 6-16], where data terminal transmits the data to arithmetic and control unit which is then converted by transmission unit, data containing command operations) and the operation condition data for the monitor processing unit and sends the generated data frame to the output processing unit and the monitor processing unit (Sakai, [0012, lines 6-16], where data is sent to printer which is output processing and to display device which could be monitor processing device).

10. As to claim 6, Sakai and Darby disclose the invention substantially as in parent claim 1, including, wherein, after the monitor processing unit determines whether abnormality is present (Darby, Col.3, lines 41-45, where vehicle crash parameters are abnormality), the monitor processing unit stores a result of determination along with information that is used for the determination (Darby, Col.3, lines 41-45, where passenger configuration, data from acceleration sensor device, system integrity data and warning messages are all stored).

11. Claim 4, is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai and Darby as applied to claims 1-3 above in view of Nitta et al. (Patent Number: US 6,321,150 B1) hereinafter "Nitta".

12. As to claim 4, Sakai and Darby discloses the invention substantially as in parent claim 3. Sakai and Darby however are silent on disclosing, wherein the timing information includes at least one of a counter value, a random number that is not repeatedly used, and a time when sending is executed. Nitta however, discloses, wherein the timing information includes at least one of a counter value, a random number that is not repeatedly used (Nitta, Abstract, where counter values is a random value and is sent out with the signal, and a time when sending is executed (Nitta, Col.1, lines 21-29, where watchdog timer is used and therefore it is obvious that timing of actions performed must be recorded and considered).

Therefore it would have been obvious to one ordinary skilled in the art at the time the invention was made to combine the teachings of Sakai and Darby as applied to



claim 3 above with the teachings of Nitta in order to provide an abnormality monitoring device for a vehicle control system formed by interconnecting a plurality of control units of which objects to be controlled are different from one another by multiplex communication lines.

**Examiner's Note:** Examiner has cited particular columns and line numbers in the references, as applied to the claims above for the convenience of the applicant.

Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in its entirety as potentially teaching of all or part of the claimed invention, as well as the context.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tauqir Hussain whose telephone number is 571-270-1247. The examiner can normally be reached on 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571 272 3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TH

A handwritten signature in black ink, appearing to read 'Bunjob Jaroenchonwanit', is written over a circular stamp.

BUNJOB JAROENCHONWANIT  
SUPERVISORY PATENT EXAMINER

7/23/7